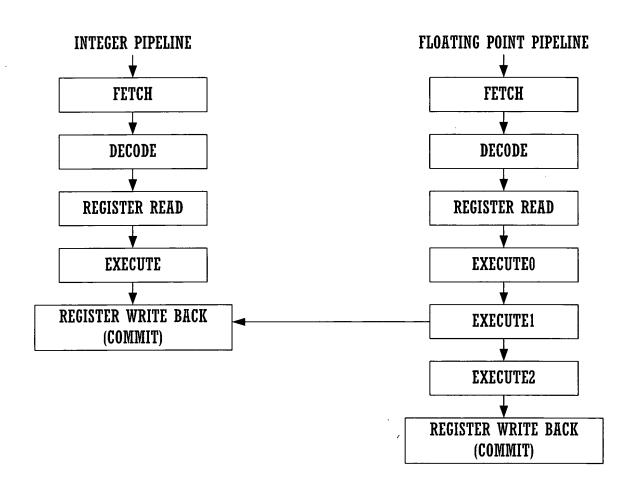


TITLE: FLOATING POINT EXCEPTION HANDLING IN PIPELINED PROCESSOR USING SPECIAL INSTRUCTIONS TO DETECT GENERATED EXCEPTION AND EXECUTE INSTRUCTIONS SINGLY FROM KNOWN CORRECT STATE

INVENTOR(S): Guillermo J. Rozas, David Dunn, Robert F. Cmelik USSN: 09/603,743 ATTORNEY DOCKET #: TRAN-P019

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300

BEGIN AUTOMATICALLY INSERTING A COMMAND THAT TESTS FOR FLOATING POINT STATUS EXCEPTIONS INTO A SEQUENCE OF INSTRUCTIONS TO BE EXECUTED 310 RESPONDING TO A TEST BY SAID COMMAND THAT INDICATES A GENERATED FLOATING POINT STATUS EXCEPTION DURING PIPELINED EXECUTION OF THE SEQUENCE OF INSTRUCTIONS BY RETURNING EXECUTION TO AN INSTRUCTION IN THE SEQUENCE OF INSTRUCTIONS AT WHICH CORRECT STATE IS KNOWN 320 EXECUTING EACH INSTRUCTION IN THE SEQUENCE SINGLY TO COMPLETION UNTIL A FLOATING POINT EXCEPTION IS DETECTED 330 **END**

FIGURE 3

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BEGIN

AUTOMATICALLY INSERTING A COMMAND THAT DETECTS REPORT OF A FLOATING POINT EXCEPTION IN A SEQUENCE OF PIPELINED HOST INSTRUCTIONS TRANSLATED FROM A SEQUENCE OF TARGET INSTRUCTIONS

410

DETECTING, BY THE COMMAND, A REPORT OF A FLOATING POINT INSTRUCTION EXCEPTION DURING EXECUTION OF THE SEQUENCE OF PIPELINED HOST INSTRUCTIONS

420

EXECUTING SINGLY HOST INSTRUCTIONS TRANSLATED FROM SAID SEQUENCE OF TARGET INSTRUCTIONS IN RESPONSE TO SAID COMMAND DETECTING SAID REPORT IN SAID b), SAID EXECUTING SINGLY STARTING AT A POINT IN THE SEQUENCE OF TARGET INSTRUCTIONS AT WHICH CORRECT STATE IS KNOWN

<u>430</u>

DETECTING A FLOATING POINT INSTRUCTION EXCEPTION DURING SAID EXECUTING SINGLY HOST INSTRUCTIONS

440

END

FIGURE 4